



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|--------------------------|------------------|
| 10/645,566 | 08/22/2003 | Ik Beom Jeon | 1740-000056/US | 8221 |
| 7590 | 08/04/2006 | | EXAMINER | |
| HARNESS, DICKEY & PIERCE, P.L.C. P.O. Box 8910 Reston, VA 20195 | | | DANIELSEN, NATHAN ANDREW | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2627 | |

DATE MAILED: 08/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/645,566 | JEON ET AL. | |
| | Examiner | Art Unit | |
| | Nathan Danielsen | 2627 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 03 December 2004.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-25 and 35-49 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-25 and 35-49 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 22 August 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2627

DETAILED ACTION

1. Claims 1-25 and 35-49 are pending. Claims 26-34 have been canceled in Applicant's preliminary amendment filed 03 December 2004.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority based on applications filed in Korea on 22 August 2002 and 14 October 2002. It is noted, however, that applicant has not filed certified copies of the 10-2002-0049637 and 10-2002-0062522 applications as required by 35 U.S.C. 119(b).

Oath/Declaration

3. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

The specification to which the oath or declaration is directed has not been adequately identified. See MPEP § 602.

Drawings

4. The drawings are objected to because of various spelling errors, such as "byt" in figure 8 and "Addr ss" in figure 9. The examiner respectfully requests that the drawings be checked for any additional errors and corrected as necessary. Additionally, figures 1 and 2 should be designated by a legend such as --Prior Art-- or --Conventional Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct

Art Unit: 2627

any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

5. Claim 3 is objected to because of the following informalities: "synch" should be changed to --sync-- to maintain consistency with the specification. Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 6, 18, 20, 25, 36-39, and 47-49 are rejected under 35 U.S.C. 102(b) as being anticipated by Ueda et al (US Patent Application Publication 2001/0007545; hereinafter Ueda).

Regarding claims 1, 18, 20, 38, and 39, Ueda discloses a high-density recording medium (and associated methods of recording or reproducing (as shown in figure 5; where method steps not explicitly stated are inherent in figure 5)), comprising:

a lead-in area including a control information required for recording or reproducing data on or from the recording medium (figure 1A); and

a burst cutting area located at an inner area other than the lead-in area, the burst cutting

area including a plurality of data units (figure 1B);

wherein additional information is included in at least one data unit, the additional information including at least a medium type information (abstract).

Regarding claims 6, 36, and 49, Ueda discloses where the control information in said lead-in area includes the additional information in the burst cutting area (abstract).

Regarding claims 25, 37, 47, and 48, Ueda discloses where the identifying step identifies the information: in an early stage of recording or reproducing data on or from the recording medium and at an early stage of a drive start-up procedure (¶s 48 and 49 and figures 4 and 5).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2, 13, 14, 23, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda, in view of Haneji (US Patent 5,124,962).

Regarding claim 2, Ueda discloses everything claimed, as applied to claim 1. However, Ueda fails to disclose where the medium type information indicates that the recording medium is a writable medium or read-only medium.

In the same field of endeavor, Haneji discloses where the medium type information indicates that the recording medium is a writable medium or read-only medium (col. 2, lines 16-18).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used control information to indicate if a recording medium is a writable or read-only type, as taught by Haneji, for the purpose of setting drive conditions of an optical disk (col. 2, lines 3-5).

Regarding claims 13, 14, 23, and 44, Ueda discloses everything claimed, as applied to claims 1, 18, and 38. However, Ueda fails to disclose where the additional information includes a reflectivity information, the reflectivity information indicating the reflectivity of the recording medium,

Art Unit: 2627

where the reflectivity information is required for an optical power control or an automatic gain control when a data recording or reproducing operation is carried out.

In the same field of endeavor, Haneji discloses where the additional information includes a reflectivity information, the reflectivity information indicating the reflectivity of the recording medium (col. 2, lines 6-16), where the reflectivity information is required for an optical power control or an automatic gain control when a data recording or reproducing operation is carried out (col. 2, lines 6-26).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used control information to indicate the reflectivity of a recording medium, as taught by Haneji, for the purpose of setting drive conditions of an optical disk (col. 2, lines 3-5).

10. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda, in view of Miyasaka (US Patent 4,972,399).

Regarding claim 3, Ueda discloses everything claimed, as applied to claim 1. However, Ueda fails to disclose where each data unit is preceded by sync information.

In the same field of endeavor, Miyasaka discloses where each data unit is preceded by sync information (figure 4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included sync information in the control data area, as taught by Miyasaka, for the purposes of ensuring access to and reading out of disk characteristic data (col. 1, lines 48-51).

Regarding claim 4, Ueda discloses everything claimed, as applied to claim 3. However, Ueda fails to disclose where the additional information field is recorded in a first data unit.

Art Unit: 2627

In the same field of endeavor, Miyasaka discloses where the additional information field is recorded in a first data unit (figure 4, where the single block of 128 data bits is considered to be the same as the claimed first data unit).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have put additional information in a first data unit, as taught by Miyasaka, for the purposes of ensuring access to and reading out of disk characteristic data (col. 1, lines 48-51).

11. Claims 5 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda, in view of Ishida et al (US Patent 6,208,603; hereinafter Ishida).

Regarding claims 5 and 21, Ueda discloses everything claimed, as applied to claims 1 and 18. However, Ueda fails to disclose where the additional information is repeatedly recorded in each data unit.

In the same field of endeavor, Ishida discloses where additional information is repeatedly recorded in each data unit (col. 14, lines 53-56).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have recorded information in duplicate, as taught by Ishida, for the purpose of more reliably reproducing it (col. 14, line 64 through col. 15, line 33; more specifically col. 15, lines 13-15).

12. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda, in view of Dieleman et al (US Patent 5,341,356; hereinafter Dieleman).

Regarding claim 7, Ueda discloses everything claimed, as applied to claim 6. Additionally, Ueda discloses a lead-out area (element 105 in figure 1A). However, Ueda fails to disclose where the lead-out area contains control information.

In the same field of endeavor, Dieleman discloses where the lead-out area contains control information (abstract).

Art Unit: 2627

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included control information in a lead-out area, as taught by Dieleman, for the purpose of controlling reading of the information in all of the recorded information volumes (abstract).

13. Claims 8-12, 19, 24, 35, 40, 41, 45, and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda, in view of the Applicant's admitted prior art (hereinafter the AAPA).

Regarding claims 8, 19, and 40, Ueda discloses everything claimed, as applied to claims 1, 18, and 41. However, Ueda fails to disclose where the additional information further includes layer information.

In the same field of endeavor, the AAPA discloses where the additional information further includes layer information (page 3, lines 10-15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included layer information in the additional information, for the purpose of determining which layer is the currently recorded/reproduced layer (page 3, lines 10-15).

Regarding claims 9, 35, and 45, Ueda discloses everything claimed, as applied to claims 8, 18, and 38. However, Ueda fails to disclose where the additional information further includes a sequence number to identify a data unit.

In the same field of endeavor, the AAPA discloses where the additional information further includes a sequence number to identify a data unit (3-byte sector number information in page 2, line 4 and figure 2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included layer information in the additional information, for the purpose of identifying the sector which is the currently being recorded/reproduced (page 2, lines 2-4).

Regarding claim 10, Ueda discloses everything claimed, as applied to claim 8. However, Ueda fails to disclose where layer information represents the number of layers included in the recording medium.

In the same field of endeavor, the AAPA discloses where layer information represents the number of layers included in the recording medium (page 3, lines 10-15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included layer information in the additional information, for the purpose of determining which layer is the currently recorded/reproduced layer (page 3, lines 10-15).

Regarding claim 11, Ueda discloses everything claimed, as applied to claim 10. Additionally, Ueda discloses where the control information in said lead-in area includes the additional information in the burst cutting area (elements 106 and 107 in figure 1B and elements 110 and 111 in figure 2C).

Regarding claim 12, Ueda discloses everything claimed, as applied to claim 9. Additionally, Ueda discloses where the additional information further includes an application indicator to indicate a use for a copy protection system (element 106 in figure 1B).

Regarding claims 24 and 46, Ueda discloses everything claimed, as applied to claims 18 and 38. However, Ueda fails to disclose where the identifying and reading steps identify/read the information preferentially when the recording medium is loaded in a recording or reproducing apparatus.

In the same field of endeavor, the AAPA discloses where the identifying and reading steps identify/read the information preferentially when the recording medium is loaded in a recording or reproducing apparatus (page 3, lines 16-20).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have read the control information first, as taught by the AAPA, for the purpose of normally carrying out a data recording or reproducing operation corresponding to the read information (page 3, lines 21-22).

Regarding claim 41, Ueda discloses everything claimed, as applied to claim 40. Additionally, Ueda discloses processing the read information included in at least one data unit to identify the information (figure 5).

14. Claims 15-17, 22, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda, in view of Vining et al (US Patent 6,377,526; hereinafter Vining).

Regarding claims 15, 22, and 43, Ueda discloses everything claimed, as applied to claims 1, 18, and 38. However, Ueda fails to disclose where the medium type information represents the type of a BD-ROM (BD-Read Only memory), a BD-R (BD-Recordable), or BD-RE (BD-Rewritable).

In the same field of endeavor, Vining discloses where one byte is dedicated to identifying the type of disk the control data has been recorded on (col. 5, lines 37-48).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used different bit/byte values in control data to indicate medium type information, as taught by Vining, for the purposes of determining the type of medium in the drive as well as to provide support and expansion capabilities for new types of media (col. 5, lines 37-48).

Regarding claim 16, Ueda discloses everything claimed, as applied to claim 1. However, Ueda fails to disclose where the data unit comprises a plurality of information bytes, the medium type information is included in at least one information byte.

In the same field of endeavor, Vining discloses where the data unit comprises a plurality of information bytes, the medium type information is included in at least one information byte (figure 4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included medium type information in at least one information byte of a plurality of control data bytes, as taught by Vining, for the purpose of identifying the type of medium in the drive (col. 5, lines 37-48).

Art Unit: 2627

Regarding claim 17, Ueda discloses everything claimed, as applied to claim 16. However, Ueda fails to disclose where the medium type information is included in the first information byte in each data unit.

In the same field of endeavor, Vining discloses a byte for indicating the medium type (figure 4). However, this byte in Vining is not the first byte of the data unit shown in figure 4. Therefore, absent criticality for including medium type information in the first information byte in each data unit, locating this information in this byte is considered to be an arrangement of data. Where certain types of descriptive material, such as mere arrangements or compilations of facts or data, are merely stored so as to be read or outputted by a computer without creating any functional interrelationship, either as part of the stored data or as part of the computing processes performed by the computer, then such descriptive material alone does not impart functionality either to the data as so structured, or to the computer. Furthermore, Haneji suggests that the exact location of this data within the plurality of data units, and thus within the BCA (PEP) area, is irrelevant as long as this data is located somewhere within the data units and is therefore reproduced prior to reproducing data from any other location on the recording medium (col. 1, lines 25-39).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included medium type information in at least one information byte of a plurality of control data bytes, as taught by Vining, for the purpose of identifying the type of medium in the drive (col. 5, lines 37-48). Furthermore, absent criticality for including medium type information in the first information byte in each data unit, locating this information in this particular location is considered to be a mere arrangement of data and is thus considered to be an obvious matter of design choice.

15. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda, in view of the AAPA, and further in view of Ishida.

Art Unit: 2627

Regarding claim 42, Ueda, in view of the AAPA, discloses everything claimed, as applied to claim 41. Additionally, Ueda discloses where the processing step processes the read information included in each data unit to identify the information (figure 5). However, Ueda, in view of the AAPA, fails to disclose where the information is repeatedly included in each data unit.

In the same field of endeavor, Ishida discloses where additional information is repeatedly recorded in each data unit (col. 14, lines 53-56).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have recorded information in duplicate, as taught by Ishida, for the purpose of more reliably reproducing it (col. 14, line 64 through col. 15, line 33; more specifically col. 15, lines 13-15).

Allowable Subject Matter

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Inoue et al (WO 2000/026912) and Tosaki et al (US Patent 6,992,959) disclose a DVD disk which has a bar code containing medium type information as claimed in at least claims 1 and 2;
- b. Tomita (US Patent Application Publication 2003/0016603) discloses a disk having a PEP area and a BCA in the same radial range; and
- c. Ueki (JP Patent Application Publication 2003-196843) discloses an optical recording medium having a BCA which contains auxiliary information for disk copyright protection.

Art Unit: 2627

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Danielsen whose telephone number is (571) 272-4248. The examiner can normally be reached on Monday-Friday, 8:30 AM - 4:30 PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, A.L. Wellington can be reached on (571) 272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nathan Danielsen
07/26/2006

ND

Andrea Wellington
ANDREA WELLINGTON
SUPERVISORY PATENT EXAMINER